DOCUMENT RESUME

ED 264 613 CS 505 111

AUTHOR Watson, Kittie W.; Barker, Larry L.
TITLE Listening Assessment: The Watson-Barker Listening Test.
PUB DATE Nov 85
NOTE 16p.; Paper presented at the Annual Meeting of the Speech Communication Association (71st, Denver, CO, November 7-10, 1985).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Adults; Listening Comprehension; *Listening Comprehension Tests; Listening Skills; Postsecondary Education; *Test Construction; Test Reliability; Test Reviews; Test Use; Test Validity
IDENTIFIERS *Watson Barker Listening Test

ABSTRACT

An overview of listening tests and a description of the Watson-Barker Listening Test are presented in this paper. Topics covered include the readability and validity of listening tests; listening test administration; listening test criteria; creation of the Watson-Barker Listening Test; development, validation, and proper administration of this test; research using the Watson-Barker Listening Test; and the use and response to the test, as well as future plans. Four tables containing data on the test and a short bibliography are included. (DF)

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LISTENING ASSESSMENT:

THE WATSON-BARKER LISTENING TEST

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Kittie W. Watson, Ph.D.
Vice President, SPECTRA Communication Associates
and
Associate Professor
Tulane University
New Orleans, LA 70118

and

Larry L. Barker, Ph.D.
President, SPECTRA Communication Associates
and
Professor
Auburn University
Auburn, AL 36849

Presented to

Speech Communication Association Convention
Denver, CO
November 1985

CS505111

LISTENING ASSESSMENT:
THE WATSON-BARKER LISTENING TEST

The first formal listening studies were concerned with listening comprehension in elementary classroom settings. As listening scholars and theorists identified factors which affected listening comprehension, they began to modify existing tests and to create additional ones. A comprehensive description and listing of tests for various educational levels is provided in Communication Education (Rubin, et al., 1982) and in Communication Yearbook Eight (Watson & Barker, 1984c). Current research, however, suggests that listening is a complex process rather than a singular skill. For this reason, many listening tests have failed to measure critical situational elements of the listening process.

RELIABILITY AND VALIDITY OF LISTENING TESTS

Listening tests currently on the market have frequently been criticized by communication scholars and educators. Critics have questioned the tests' validity, the relationship among types of listening required, generalizability to the "real" world, norming procedures, passage length, and methods of administration. Many educators were surprised when they found that the most popular standardized listening tests were more closely related to general mental ability than to listening (Kelly, 1967). Theorists reasoned that if listening tests were indeed measuring a distinct skill, that they should have correlated more closely with each other than with achievement or intelligence tests. Since they did not, theorists attributed the differences in listening test scores to general mental ability rather than to listening comprehension differences.

A number of additional criticisms of both published and unpublished listening tests include the mode of presentation, testing time, test item difficulty, test norming procedures, shortness of test passages, grade level inconsistencies, style of stimulus materials (oral/written), sex-interestingness bias, cultural/intellectual bias, listening purpose/activity, and test reading-writing requirements. Unfortunately, until measuring instruments address these criticisms, listening test score results may provide little meaningful information.

LISTENING TEST ADMINISTRATION

A number of theorists have investigated the effects of administration on listening tests scores (e.g., Barker, et.al., 1984). In addition to examining presentor effects and the mode and rate of presentation, studies have examined the relationship between administering tests in oral and written formats, with or without background noise, at different difficulty levels, and with true-false, multiple choice, or braille responses. Even though considerable research has examined the effects of

administration on listening test scores, the results are relatively useless without reliable and valid measures of listening comprehension.

LISTENING TEST CRITERIA

Developing a reliable and valid measure of listening comprehension is difficult, and thus far no single listening test has gained universal acceptance. Several theorists have made suggestions about what to avoid or be aware of during listening test construction. Caffrey (1950) identified three basic problems in evaluating listening: elimination of irrelevant factors as items to be measured by the test (such as attention); isolation of test items from reading factors; and standardization of methods of presentation to nullify variations. McCarthy (1958) warned that since listening is closely related to general information, it is important to control for content familiarity. If familiarity is not controlled, those individuals who are most familiar with the information will have higher listener comprehension scores. Langholz (1966) stressed that listening tests need more discriminating items in order to ensure that tests are reliable across grade levels.

Although many theorists have presented suggestions for listening test construction, recent public education mandates requiring proficiency in listening as well as speaking, reading, and writing has increased interest in listening test development and validation (Bassett, Whittengton, & Stanton-Spicer, 1978). Backlund, Brown, Gurry, and Jandt (1982) worked with the state of Massachusetts to conceive, implement, and evaluate basic skills. They identified eleven key listening skills and then established criteria by which to judge published listening tests. The criteria were as follows:

(1) stimulus requires responder to perform as a listener.

(2) instrument distinguishes listening performance from reading and writing.

(3) instrument is free of gender, cultural, racial, ethnic content, and/or stereotyping.

(4) instrument assesses presence or absence of skills.

Of the seven listening tests these researchers evaluated, no instrument met their predetermined cutoff point (50% of the identified skills and criteria). In addition to establishing criteria by which to judge current listening tests, Backlund, et al. (1982) provided the following recommendations for the development of future listening tests:

1. use taped stimulus materials (audio, audio/video).

2. use spoken not written passages that are read aloud.

3. call for simple, minimal responses.

4. produce the stimulus messages and questions on tape.

5. contain test booklets with items in writing.

6. use short stimulus materials (30 seconds to 3 minutes).

7. use interesting stimulus materials (meaningful/real-life).

8. control vocalizations used in the stimulus materials.

In addition to these suggestions, theorists should remember to construct tests that differentiate among short-term listening, short-term listening with rehearsal, and lecture listening (Bostrom & Waldhart, 1980). Based on principles of memory, short-term listening lasts up to fifteen seconds, short-term listening with rehearsal lasts up to forty seconds, and long-term listening (affected by rehearsal techniques and organizational schemes) is not activated unti at least one minute after the presentation (Norman & Rumelhart, 1975; Smith, 1978). It is also important for listening tests to include an alternate forms test-retest component in order to measure the critical effects of instructional strategies.

CREATION OF THE WATSON-BARKER LISTENING TEST

Using the above suggestions for creating a reliable and valid measure of listening behavior, the WATSON-BARKER Listening Test was developed in 1982 and pilot tested over a two year period. The test attempts to provide a measurement of interpersonal listening abilities for adults (particularly those interested or involved in business and industry) and college students. No current standardized test exists which is oriented primarily toward adult and mature college level audiences. Therefore, the WATSON-BARKER Listening Test was developed to fill a need in the measurement of adult listening abilities.

The WATSON-BARKER Listening Test comes in a variety of forms. Two different versions of the tests, FORM A and FORM B, are available for pre-testing and post-testing, and a SHORT FORM is available for demonstration and listening awareness purposes. Versions are also available which contain background distractions such as business machinery, background conversation, and other environmental noises.

The 30 minute test is presented on audio tape and consists of 50 items divided equally into five sections. Instructions, listening content material, and test questions are contained on the audio-tape. In addition, the test focuses on topics used in business contexts and uses speakers with different genders and regional dialects. Each test taker receives five individual scores as well as an overall score.

The WATSON-BARKER Listening Test is divided into five parts: (1) evaluating message content; (2) understanding meaning in conversations; (3) understanding and remembering information in lectures; (4) evaluating emotional meanings in messages; and (5) following instructions and directions.

Each part of the WATSON-BARKER Listening Test is designed to test a particular type of listening ability. By presenting statements and/or questions, Part I measures the listener's skill in interpreting message content. After listening to various dialogues/conversations in Part II, test takers answer questions about what they heard. Part III involves listening to a series of brief "lectures." This section requires test takers to answer questions after listening to longer passages designed to be spoken aloud. Part IV uses questions and/or statements to measure the listener's skill in interpreting emotional meaning. Listeners are asked to attend to <u>how</u> something is said rather than to <u>what</u> is said. Finally, Part V measures a listener's ability to follow instructions and/or directions.

Listening experts suggest that listeners need to adapt their listening styles to different listening situations. Therefore, Parts I, II, and IV are designed to measure listening skills used in short-term listening situations. Parts III and V are designed to measure listening skills used in long-term listening situations. Evaluating the individual "Part" scores allows test takers to assess specific areas in which improvement may be necessary.

TEST DEVELOPMENT AND VALIDATION

A preliminary sample of items to be included in the WATSON-BARKER Listening Test was presented during the International Listening Association Convention in Minneapolis in 1982. The responses from convention participants were both constructive and encouraging. On the basis of the feedback from several consultants and trainers, two forms of the test were designed and Form A was recorded for pilot testing. Subjects for the pilot testing included adult executives, professionals, government employees, and undergraduate/graduate college students from a variety of universities and curricula.

Tests were administered and analyzed for several thousand subjects representing a variety of different states and geographical regions. Tests were subjected to factor analyses, item analyses, reliability tests, and descriptive analyses. In addition, face validity was assessed by using a panel of listening experts to judge the validity of each item.

<u>Alternate Form Reliability Coefficients</u>. Since the WATSON-BARKER Listening Test was designed to be used for test-retest purposes, reliability coefficients were determined for alternate forms of the test. Using the Pearson Product-Moment Correlation, significant positive correlations were found between Form A and

Form B ($r = .42$, $p < .05$) and the Short Form and Form A ($r = .33$, $p < .05$).

Item Analysis. Results from early versions of the test were submitted to item analysis. Those items selected were designed to discriminate among effective and ineffective test takers. Items which were identified as too easy or too difficult were eliminated from the final version of all test forms.

Normative Data (With and Without Distractions. Since the development of the WATSON-BARKER Listening Test, the developers have collected data to establish norms for different forms of the test. Respondents include undergraduates at four year universities and professionals participating in communication related training seminars. Tables I, II, III, and IV provide normative data for Forms A and B with and without distractions.

Validity. During the developmental stage of the WATSON-BARKER Listening Test Roach and Fitch Hauser (1984) designed a study investigating the effects of administrating the test in oral and/or written formats. Another purpose of this investigation (especially important to the test developers) was to present initial assessment of test reliabilities for the WATSON-BARKER Listening Test. Although the analysis suggested little inter-item consistency, the results were partially a function of the analysis employed. (Even so, the information was used to improve the final version of the test.)

Applegate and Campbell (1985) conducted a correlational analysis of overall and sub-test scores of the WATSON-BARKER and Kentucky Comprehensive Listening Tests. Significant correlations were found between section two of the Kentucky test and section one of the WATSON-BARKER test, between section one of the Kentucky test and section three of the WATSON-BARKER test, and section four of the Kentucky test and section five of the WATSON-BARKER test. A significant correlation was also found between the total scores of the two tests. Canonical correlation loadings indicated that as scores on sections three and five of the WATSON-BARKER test decreased, scores on sections one, two, and four of the Kentucky test decreased. Section one of the WATSON-BARKER and section three of the Kentucky test loaded at an interpretable level, but in opposite directions. Only section four of the WATSON-BARKER test did not load at all (understandable considering there is no parallel section in the Kentucky test). The results suggest that the WATSON-BARKER Listening Test is a broader measuring instrument.

Roberts (1985) conducted a study to provide support for validation of the WATSON-BARKER Listening Test. Statistical analysis of the data revealed a significant correlation between the Receiver Apprehension Test (RAT) scores and both Long Term Memory and Total Listening, but not between RAT scores and Short Term Memory. The significant relationships were curvilinear in nature, as expected, based on the relevant literature. It was concluded tht the claims of validity for the WATSON-BARKER

instrument are partially supported by these data.

WATSON-BARKER TEST ADMINISTRATION

The WATSON-BARKER Listening Test is designed to be administered easily and by persons without previous listening or test administration experience. The following procedures are provided with each test package:

(1) Set up tape recorder in a quiet room, large enough for the group you will be testing.

(2) Test the tape recorder to be sure that it is working properly (if it uses batteries, installation of fresh batteries before starting the tape is recommended).

(3) Insert tape in recorder and cut it up ready to be played.

(4) Distribute test booklets, masking sheets, and answer booklets to persons taking the test.

(5) Announce to the test takers that the test is about to begin and that all talking should stop. Announce that all directions will be given orally, but that they are also included in the test booklet and should read along while listening to the narrator.

(6) Start the tape an set appropriate volume level during the "10 count." Check for nonverbal cuses by participants in all parts of the room. If someone has a hearing loss or can't hear the tape clearly, stop the tape after the "10 count" and move them closer to the recorder.

(7) Let the tape play until the end. The last words on the tape are "This is the end of Part V, and the end of the WATSON-BARKER Listening Test -- Form (A, B, or Short-Form)."

(8) Stop the tape.

(9) Collect all answer sheets, masking sheets, and test booklets.

(10) If the test is being used for awareness training, administrators may want the test takers to score their own forms immediately. The answer sheet is designed to allow test takers to score their own tests by separating the top sheet from the bottom. The directions for scoring are presented at the end of the Facilitator's Guide.

In addition to the preceeding instructions, in February of 1985, users and administrators of the WATSON-BARKER Listening Test were sent a memorandum providing a detailed explanation of the best equipment and appropriate sound equalization to use when admininstering the test.

RESEARCH USING THE WATSON-BARKER LISTENING TEST

Since its inception, a number of researchers have used the WATSON-BARKER Listening Test as a listening comprehension measurement tool. In 1984, Vierthaler examined the effects of the presence of others on listening test scores (Vierthaler & Barker, 1985). It was found that subjects taking the test in the presence of others scored significantly higher than those subjects taking the test alone. The results indicated significant differences among the treatment conditions. Roach and Fitch Hauser (1984) designed a study using three modes of administrating the WATSON-BARKER Listening Test: test presented orally, test presented orally accompanied with written instructions and responses in original WATSON-BARKER test booklet; and test instructions and item stems presented orally accompanied with written instructions and responses in original WATSON-BARKER test booklet. No significant differences were found among the three conditions. As mentioned earlier, another purpose of this investigation was to present initial assessment of test reliabilities for the WATSON-BARKER Listening Test.

In 1985, several studies were conducted using the WATSON-BARKER Listening Test. Vierthaler, et al., (1985) investigated the effects of background noise on listening comprehension scores. The results of the study suggest that noise did not significantly lower the subject's test scores. However, the study contained several contaminating variables and was later replicated with substantial revisions. Applegate and Campbell (1985) conducted a correlational analysis of overall and sub-test scores of the WATSON-BARKER and Kentucky Comprehensive Listening Tests. Significant correlations were found between various sections of each test, however, the shared variance was surprisingly low. Roach, et al., (1985) investigated the effects of receiver apprehension and noise on listening comprehension. Results of the study indicated that no significant interaction existed, although potential effects may exist for receiver apprehension alone. Dillard and Moffet (1985) designed a study to measure the effect of background music (sedative and stimulative) on listening comprehension. The results suggest that stimulative music adversely affected listening comprehension scores. Trott, et al., (1985) investigated the effects of visual distractions on listening comprehension and found no significant differences among the treatement conditions. Roberts (1985) as discussed earlier, found partial support for validation of the instrument. The significant relationships were curvilinear in nature, as expected, based on the relevant literature. It was concluded that the claims of validity for the WATSON-BARKER instrument are partially supported by these data. In a revision and expansion of a previous study (Vierthaler et al., 1985), Vierthaler (1985) examined the relationship among gender, personality type, and listening comprehension scores when differeing levels of distracting noise were present. The results showed no significant difference between males and females in relation to listening comprehension scores when differing levels of distracting noise were present. However, an interaction was

established between personality type and differing levels of distraction in a listening comprehension test.

USE AND RESPONSE TO THE WATSON-BARKER LISTENING TEST

Response from users and critics of the WATSON-BARKER Listening test has been highly favorable (Ward, 1984). Without formal advertising (primarily by word-of-mouth), the test is currently administered in at least 26 states and 3 countries. The test has been adopted for use in community colleges and universities, government agencies, professional organizations, and business and industry.

FUTURE DEVELOPMENT

The present version of the test was designed for use with adult and college audiences. Efforts are currently underway to develop additional forms of the WATSON-BARKER Listening Test. The mandate to find a valid-reliable measurement of listening for high school students encouraged the development of a High School Version of the test which will be pilot-tested in early 1986. The developers are currently exploring the possibility of translating both the original and high school versions into Spanish. In addition, future plans include the development of a video version of the original test that more accurately measures the full range of decoding (visual and aural) activities.

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TABLE I

NORMATIVE DATA ON WATSON-BARKER LISTENING TEST

(Forms A and B Without Distractions)

POPULATION DESCRIPTION: Undergraduates at four year universities (approximately 60% freshmen and sophomores; 40% juniors and seniors)

NUMBER OF SUBJECTS (including pilot version): 4000 plus

MEAN SCORES FOR INDIVIDUAL PARTS (Total Score Possible = 20):

Part 1:	11.40	(s.d. = 3.06)
Part 2:	9.90	(s.d. = 3.18)
Part 3:	11.41	(s.d. = 2.91)
Part 4:	14.48	(s.d. = 2.71)
Part 5:	13.94	(s.d. = 3.48)

MEAN SCORE (Total Score Possible = 100):

Males:	60.24	(s.d. = 7.16)
Females:	62.42	(s.d. = 8.18)

RANGE: 62

COMMENTS: Most undergraduates represented here were enrolled in a basic speech communication class. When this test was administered during class it did not affect the student's class grade.

TABLE II

NORMATIVE DATA ON WATSON-BARKER LISTENING TEST

(Forms A and B Without Distractions)

POPULATION DESCRIPTION: Business and professional men and women enrolled in communication training seminars. Ages ranged from 23 to 62 with an average age of 40.

NUMBER OF SUBJECTS (including pilot version): 500 plus

MEAN SCORES FOR INDIVIDUAL PARTS (Total Score Possible = 20):

Part 1:	12.76	(s.d. = 2.86)
Part 2:	9.56	(s.d. = 3.34)
Part 3:	11.62	(s.d. = 1.84)
Part 4:	16.04	(s.d. = 2.02)
Part 5:	13.14	(s.d. = 2.76)

MEAN SCORE (Total Score Possible = 100):

Males:	64.06	(s.d. = 5.82)
Females:	62.15	(s.d. = 6.45)

RANGE: 44

COMMENTS: Most participants in the communication seminars were enrolled by their corporation in an attempt to have their overall communication skills improved. There is a possibility that participants were more highly motivated to do well on the test than "average" participants not enrolled in the seminars.

TABLE III

NORMATIVE DATA ON WATSON-BARKER LISTENING TEST

(Forms A and B With Distractions)

POPULATION DESCRIPTION: Undergraduates enrolled in basic speech communication classes at four year institutions. Average age 20.

NUMBER OF SUBJECTS (including pilot version): 150 plus

MEAN SCORES FOR INDIVIDUAL PARTS (Total Score Possible = 20):

Part 1:	12.04	(s.d. = 3.12)
Part 2:	8.26	(s.d. = 3.84)
Part 3:	9.96	(s.d. = 2.14)
Part 4:	15.66	(s.d. = 2.86)
Part 5:	12.62	(s.d. = 3.88)

MEAN SCORE (Total Score Possible = 100):

Males:	59.47	(s.d. = 6.02)
Females:	57.54	(s.d. = 6.71)

RANGE: 47

COMMENTS: Most undergraduates taking this form of the test were given extra credit for participating in the testing process. However, the scores did not count toward the student's final class grade.

TABLE IV

NORMATIVE DATA ON WATSON-BARKER LISTENING TEST

(Forms A and B With Distractions)

POPULATION DESCRIPTION: Business and professional men and women enrolled in communication training seminars. Ages ranged from 21 to 65, with an average age of approximately 45.

NUMBER OF SUBJECTS (including pilot version): 150 plus

MEAN SCORES FOR INDIVIDUAL PARTS (Total Score Possible = 20):

Part 1:	11.65	(s.d. = 3.41)
Part 2:	9.97	(s.d. = 2.87)
Part 3:	8.01	(s.d. = 2.43)
Part 4:	15.13	(s.d. = 1.99)
Part 5:	13.66	(s.d. = 2.39)

MEAN SCORE (Total Score Possible = 100):

Males:	58.92	(s.d. = 8.44)
Females:	57.13	(s.d. = 9.62)

RANGE:

COMMENTS: Most participants in the communication seminars were enrolled by their corporation in an attempt to have their overall communication skills improved. There is a possibility that participants were more highly motivated to do well on the test than "average" participants not enrolled in the seminars.